MEMORANDUM

State of Alaska

Department of Fish and Game
Division of Habitat

TO: Jackie Timothy
Southeast Regional Supervisor

DATE: September 17, 2014

FILE NO: FH12-I-0125

SUBJECT: Indian River Coho Fry Index Trapping Report
August 20-22, 2014

FROM: Greg Albrecht
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Between August 20 and 22, 2014 I trapped coho salmon fry on the Indian River (ADF&G Stream no. 112-42-10080; cataloged for coho, chum and pink salmon, and Dolly Varden char) with US Forest Service (USFS) Fisheries Technicians Joe Serio and Kyle Rosendale. We trapped at index sites established by USFS Sitka Ranger District Staff to monitor fish use following blasting, fish pass construction, and juvenile coho transplanting between 1997 and 2005 (Figure 1).

In 2012, ADF&G issued Fish Habitat Permit FH12-I-0125 to the City of Tenakee for a run-of-the-river hydroelectric project to be installed near the fish pass at Falls 4 on the river (Figure 1). ADF&G Habitat has a shared interest in monitoring the system to assess potential impacts from the hydroelectric project.

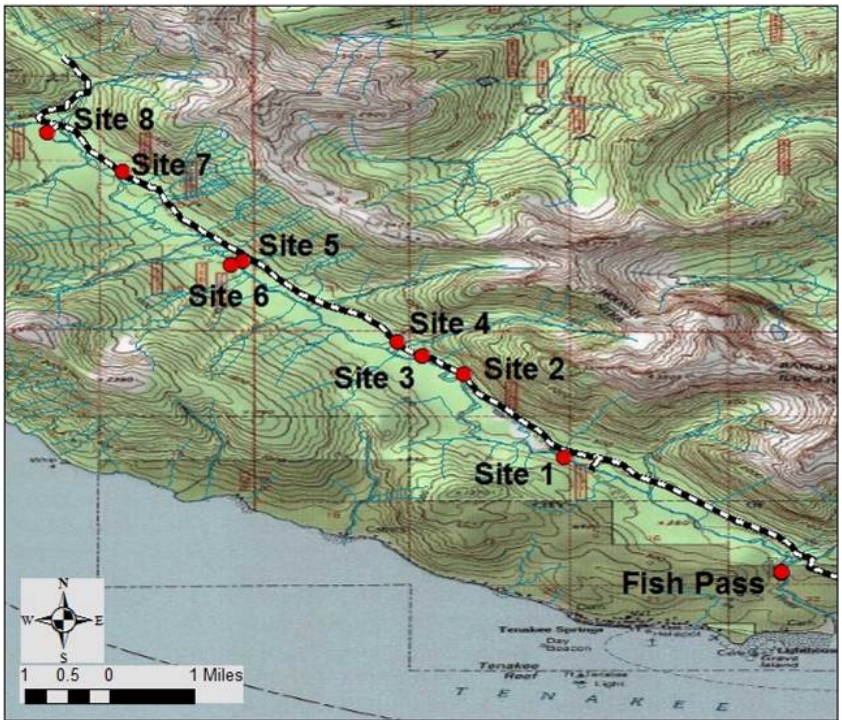

Figure 1.–Site map showing the fish pass and index trapping sites.

Methods

We followed methods from Miller (2010) which include soaking 30 1/8" Gee minnow traps, baited with freshly punctured Whirl-paks® of salmon eggs at each site for about two to four hours. We set all traps in the best available habitat, including woody debris, cut banks, and pools. We recorded fork length measurements for individual coho salmon captures. We did not trap Site 8 due to transportation issues and time availability.

Results

We captured 1,369 coho salmon and 1,118 Dolly Varden char at Sites 1–7 (Table 1, Figure 2). Coho salmon captures this year were the highest since the majority of transplanted juveniles left the system in the spring of 2006 (Figure 3, Table 2). Dolly Varden char captures were the second highest out of all years, next to 2012 (Figure 3, Table 3). While visiting the hydro site downstream, I snorkeled pools between the fish pass and the top of Falls1, counting 62 adult coho salmon.

Table 1.–Results and field notes from Sites 1–7.

Site 1			
Date	8/22/2014	**Traps**	30
Crew	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	0940 - 1353
Flow	~22 inches below OHW, moderately low	**Coho**	93
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	184
Notes	Slow section of river 3-5 feet deep in thalweg. 20 traps placed < 500 feet upstream and 10 downstream of flagged tree. Waypoint S1 – Walk upstream in channel for about 10-15 minutes to access site. Downed tree with flagging. 57.8083, -135.2246		
Site 2			
Date	8/20/2014	**Traps**	30
Crew	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	1240 - 1444
Flows	Moderately low	**Coho**	389
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	317
Notes	Large bend in stream with lots of LWD. 16 traps placed upstream and 14 placed downstream within 300 feet of gravel bar at bend. Waypoint S2 – Directly off road, staged on gravel bars. 57.8232, -135.2492		
		Appendix Photos	4047, 4051
Site 3			
Date:	8/22/2012	**Traps**	30
Crew:	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	1045 - 1500
Flows	Moderately low	**Coho**	397
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	150
Notes	Large bend with nice gravel bar and good habitat containing LWD. 15 traps were place downstream within 300 feet of site entry and 15 were placed within 400 feet upstream. Waypoint S3 – Directly off road, staged on gravel bars. 57.8261, -135.2558		
		Appendix Photos	4101, 4102

Table 1.–continued.

Site 4			
Date:	8/20/2014	**Traps**	30
Crew:	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	1325 - 1605
Flows	Moderately low	**Coho**	9
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	220
Notes	Beaver pond area. 30 traps were set around the perimeter of the pond and in small adjoining channels. Waypoint S4 – Left side of road about 100 feet through grass meadow. 57.8284, -135.2601		
		Appendix Photos	4046
Site 5			
Date:	8/21/2014	**Traps**	30
Crew:	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	0940 - 1140
Flows	Moderately low	**Coho**	324
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	71
Notes	Good rearing habitat in mainstem stretch of river. 15 traps were set within 300 feet upstream and 400 feet downstream (around the bend) of the old LSB location. Waypoint S5 – 300 feet down spur road on left side of road. 57.8423, -135.2866		
Site 6			
Date:	8/21/2014	**Traps**	30
Crew:	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	1205 - 1430
Flows	Moderately low	**Coho**	28
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	142
Notes	Good rearing habitat through meadow side channel. 10 traps were set upstream and 20 downstream of the old LSB site within 250 feet. Waypoint S6 – continue down spur road past main stem about 300 feet. 57.8415, -135.2886		
		Appendix Photos	4073, 4075
Site 7			
Date:	8/21/2014	**Traps**	30
Crew:	G. Albrecht, J. Serio, K. Rosendale	**Soak Time**	1020 - 1300
Flows	Moderately low	**Coho**	129
Weather	Clear and sunny following 2 weeks of rain	**Dolly Varden**	34
Notes	Beaver ponds on both sides of road. Culvert removed and beaver dam ~2 ft tall on uphill side of road. 2 traps set on uphill side and 2 DV and 1 CO captured. 5 were set near the mainstem below a beaver dam, 20 others set in main pond. Waypoint S7 – Adjacent to road with large fence post stuck in tree stump. 57.8577, -135.3070		
		Appendix Photos	4061, 4062

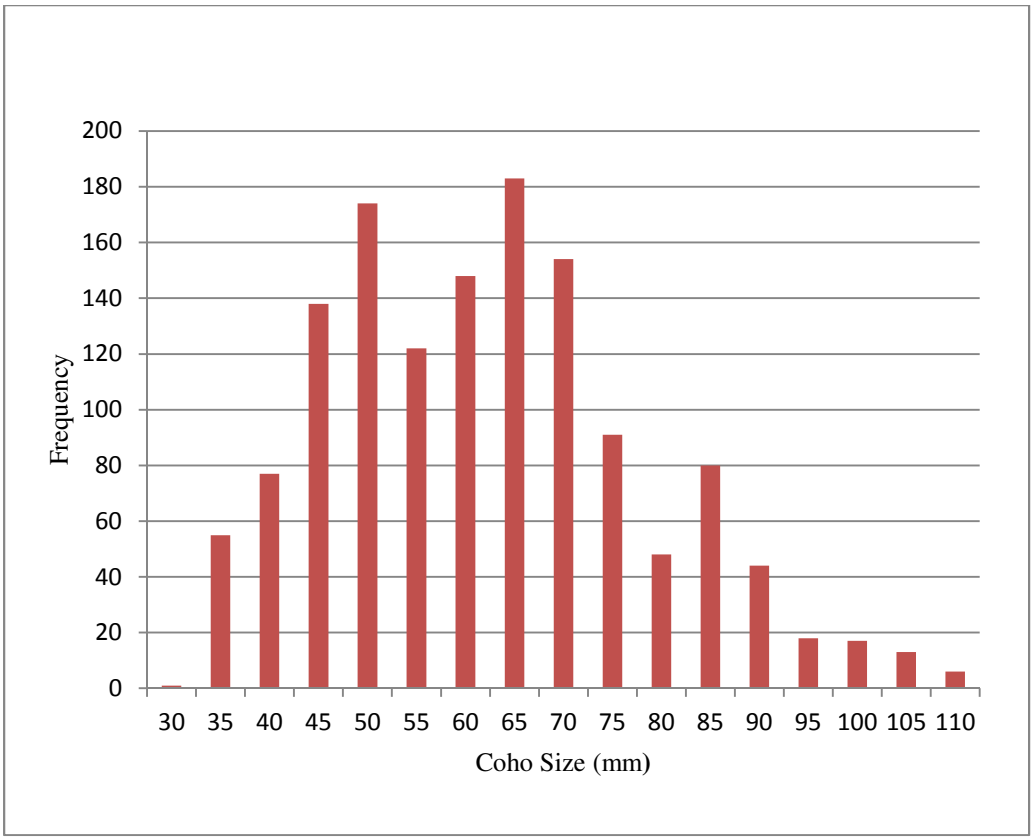

Figure 2.–Size frequency of coho salmon captured at all trapping sites.

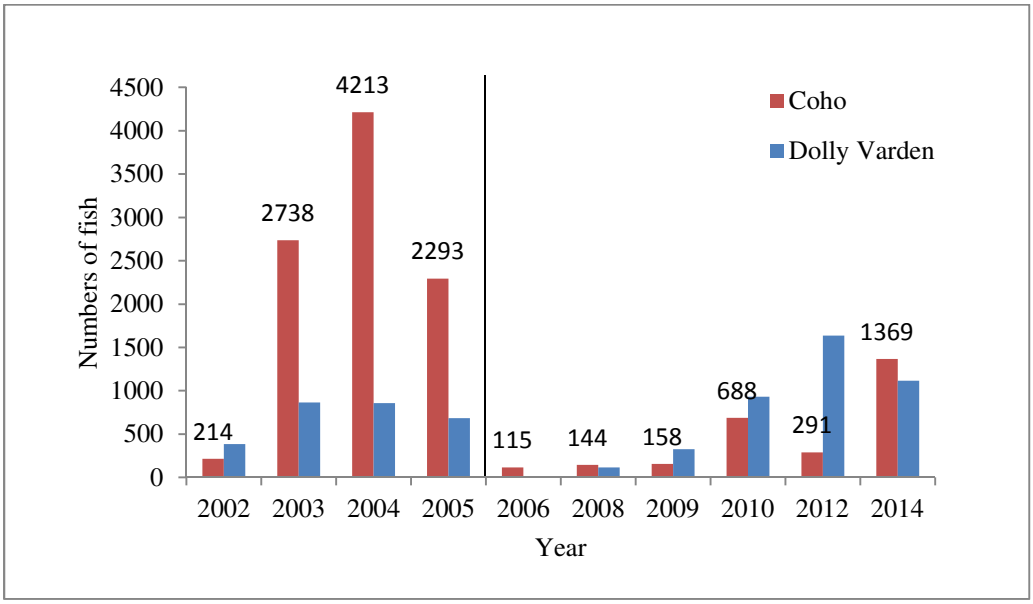

Figure 3.–Coho salmon and Dolly Varden char captures since 2002. Vertical line marks last year of transplanting.

Table 2.–Coho salmon capture by site since 2002.

	2002	2003	2004	2005	2008	2009	2010	2012	2014
Site 1	0	6	53	23	0	0	4	4	93
Site 2	9	885	751	321	4	1	140	113	389
Site 3	120	333	1009	333	15	4	284	111	397
Site 4	1	135	85	53	0	2	4	1	9
Site 5	38	640	1165	409	38	130	221	19	324
Site 6	3	236	254	437	26	21	7	5	28
Site 7	3	110	359	373	18	0	28	36	129
Site 8	40	393	486	344	22	0	0	2	*
TOTAL	214	2738	4162	2293	123	158	688	291	1369

*Site not trapped.

Table 3.–Dolly Varden char capture by site since 2002.

	2002	2003	2004	2005	2008	2009	2010	2012	2014
Site 1	34	70	76	202	1	15	62	41	184
Site 2	76	203	265	111	5	66	208	521	317
Site 3	39	156	109	58	20	60	192	453	150
Site 4	92	323	140	111	15	70	116	77	220
Site 5	21	24	106	45	10	11	122	143	71
Site 6	41	26	21	43	50	49	75	127	142
Site 7	7	9	18	25	0	7	30	25	34
Site 8	74	55	121	88	15	50	128	248	*
TOTALS	384	866	856	683	116	328	933	1635	1118

*Site not trapped.

Recommendations

I recommend that ADF&G and the USFS continue sampling every few years to document population trends after the Indian River hydroelectric project is constructed downstream.

Future Monitoring Considerations

The USFS converted culvert and bridge crossings to ATV fords in 2013. It now takes about 1 hour to travel from tide water to Site 8 on an ATV, with ford and water bar crossings every few hundred feet. I recommend those participating in future trapping events plan for extra drive time and extra time at trapping sites.

Literature Cited

Miller, RJ. 2010. Indian River Fry Monitoring 2010. US Forest Service Report.

Appendix A
Trapping site photos

Photo 1.–Downstream view at Site 2.

Photo 2.–Upstream view at Site 2.

Photo 3.–Downstream view at Site 3.

Photo 4.–Upstream view at Site 3.

Photo 5.–Beaver pond at Site 4.

Photo 6.–Downstream view at Site 6.

Photo 7.–Former log bridge location at Site 6.

Photo 9.–Former culvert location at Site 7 showing grassy beaver dam.

Photo 8.–Beaver pond at Site 6.

CC:

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